UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/925,786 | 08/09/2001 | James Davis | STAT1150 | 5372 |

6980 7590 11/17/2008

TROUTMAN SANDERS LLP
600 PEACHTREE STREET , NE
ATLANTA, GA 30308

| EXAMINER | |
|---|---|
| CHANG, JULIAN | |
| ART UNIT | PAPER NUMBER |
| 2452 | |
| MAIL DATE | DELIVERY MODE |
| 11/17/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/925,786 | DAVIS ET AL. | |
| | Examiner | Art Unit | |
| | JULIAN CHANG | 2452 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *1-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/18/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

**DETAILED ACTION**

1. This Office action is responsive to communication filed on 09/15/08. Claims 1-27 are pending, claims 1-14 are withdrawn, and claims 15-27 are examined.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,124,806 ("Cunningham") in view of Royer ("A Review of Current Routing Protocols for Ad Hoc Mobile Wireless Networks", 1999), and U.S. Pat. No. 5,251,205 ("Callon").

3. Regarding claim 15, Cunningham discloses a method for controlling communication with a host computer (Host Module HM 122, Fig 1) connected to a first communication network (Communication network CN 118, Fig. 1) and a plurality of communication devices (Sensor Interface Module SIM 102, Fig. 1) that define a second communication network (hardwire or Wireless transmission 108, Fig. I ) associated with a plurality of remote devices (inherent) that are to be monitored and controlled by the host computer (Host Module HM 122, Fig.1), the method comprising the steps of:

managing communication with each of the plurality of communication devices (col. 22, line 8 to col. 23, line 57; and Figs. 35 and 36), via a first communication

protocol (col. 12, lines 52-59; and col. 33, line 45 to col. 34, line 49), based on or more of the communication paths associated with each of the plurality of communication devices (col. 6, lines 20-31; and 108, Fig. 1), and the identification of each of the plurality of communication devices in the one or more communication paths (col. 14, lines 27-31, Fig. 21); and

managing communication with the host computer via a second communication protocol (col. 45, line 54 to col. 46, line 5).

Cunningham fails to teach determining upstream and downstream communication paths associated with each of a plurality of communication devices from a network map generated from the unique addresses of path determination messages that are sent and received by the site controller.

Royer teaches Dynamic Source Routing that is capable of determining upstream and downstream paths from a source node to a destination node. (p. 49). This is achieved by sending a route request packet through the network from the source node to the destination node, with each node along the way adding its own address to the route record of the packet. (Id.) When the packet reaches the destination node, it contains the downsteam path. (Id.) Upon receiving the packet, the destination node will generate a route reply message. (Id.) If symmetric links are not supported, the destination node may initiate its own route discovery and piggyback the route reply on the new route request. (Id.) When this new route request reaches the source node, it will contain both the upstream path and the downstream path. (Id.)

Callon teaches a system that consults a network map generated from network state packets to determine the best path for a packet to follow (Col. 13, lines 14-24). While Callon does not apply this technology to determine upstream and downstream paths, such an application would have been obvious in view of Cunningham and Royer.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use ad hoc route determination messages as taught by Royer in order to increase the flexibility and mobility of the networked system. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use a network map to determine a network path as taught by Callon in order to determine the best path based on the current network state.

4. Regarding claim 16, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 15 above, including each of the plurality of communication devices are wireless communication devices (Cunningham: col. 6, lines 1 1-1 3), the plurality of wireless communication devices being disposed throughout a geographic area such that the antenna patterns associated with the plurality of wireless communication device overlap to create a coverage area that defines the second communication network (Cunningham: col. 6, lines 11-19; col. 7, lines 32-44; and col. 14, lines 1-1 1).

5. Regarding claim 17, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 15 above, including the first

communication network is a wide area network (Cunningham: col. 32, lines 41-45; and col. 45, lines 60-67) and the second communication protocol comprises TCP/IP (Cunningham: col. 34, lines 58-65).

6. Regarding claim 18, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 15 above, including a data packet comprising: a to address (Royer: p. 49, left); a from address (Id.), and a command number comprising a function code (Cunningham: col. 14, lines 13-54; and Fig. 21).

7. Regarding claim 20, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 15 above, including receiving a request, via the first communication network, from the host computer for information related to one of the plurality of remote devices, providing a command message to the second communication network for delivery to the one of the plurality of remote devices based on one of the communication paths associated with the communication device corresponding to the one of the plurality of remote devices (Cunningham: col. 32, lines 15-24; col. 44, lines 14-35, 54-64; and co1.45, lines 54-59).

8. Regarding claim 21, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 20 above, including the system is configured to receive a first message generated by one of the plurality of communication devices via the second communication network, the first message

comprising a first communication device identifier associated with the one of the plurality of communication devices associated with one of the plurality of remote devices that generated the first message (Cunningham: col. 13, lines 54-56) and a predetermined function code corresponding to a data signal provided by the one of the plurality of remote devices associated with the one of the plurality of wireless communication devices that generated the message (Cunningham: col. 14, lines 20-24), configured to determine, based on the first communication device identifier, the one of the wireless communication devices that generated the first data signal (Cunningham: col. 14, lines 18-20).

9. Regarding claim 22, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 21 above, including providing the data signal to the first communication network for delivery to the host computer (Cunningham: 118, 120, and 122 of Fig. 1).

10. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham-Royer-Callon as applied to claim 18 above, and further in view of what was known in the art at the time of applicant's invention.

11. Regarding claim 19, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 18 above, including a data field, a checksum field; and a packet number field (Cunningham: col. 14, lines 13-54; and Fig.

21). Cunningham, however, does not disclose other fields in the packet, a packet length field; a packet maximum field, and a message number field.

Official notice is taken that such fields were well known in the art at the time of applicant's invention. See MPEP 2144.03. Examples can be found in TCP and IP headers.

It would have been obvious to one skilled in the art at the time of the invention to that an extended packet fields would increase the communication efficiency in Cunningham's system by allowing for broadcast messages and avoiding network congestion, an may be included as well in an associated communication protocol.

12. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham, and further in view of Royer, and Callon.

13. Regarding claim 23, Cunningham discloses the invention including a site controller (DCM 112, Fig. 1) adapted to be used in an automated monitoring system configured for monitoring and controlling a plurality of remote devices (SIM 102, Fig. 1) via a host computer connected to a first communication network (CN 118, Fig. 1), the site controller configured for controlling communication with the host computer (HM 120, Fig. 1 ) and a plurality of communication devices that define a second communication network associated with the plurality of remote devices (108, Fig. 1 ; col. 4, lines 47-67), wherein the second communication network comprises a first communication device associated with a first remote device and a second communication device associated

with a second remote device (Master Telemetry Network Repeater 6330; Telemetry Network Repeater 6328; Telemetry gateway 6326, Telemetry Interface Modules 6318, 6320, and 6324, Fig. 49), the site controller comprising:

a means for communicating with the plurality of communication devices via the second communication network (2008, Fig. 25; and inherent in col. 4, lines 56-60; and col. 6, lines 1 1-1 8; 45-49);

a means for communicating with the host computer via the first communication network (inherent in col. 4, lines 60-62; and col. 7, lines 19-24);

means for managing communication with the host computer via a second communication protocol (col. 45, line 54 to col. 46, line 5); and

a means for polling according to a predetermined schedule remote devices by transmitting a status message to one or more of the remote devices requesting the remote device to transmit a message containing current operating status of the remote device (col. 4, lines 9-19; claim 58).

Cunningham fails to teach a means for managing upstream and downstream communication between the site controller and a communication device according to a network map.

Royer teaches a means for managing upstream and downstream communication between a source node and a destination node (p. 49, Dynamic Source Routing). Callon teaches managing communication according to a network map (Col. 13, lines 14-24).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use manage upstream and downstream communication as taught by Royer in order to increase the flexibility and mobility of the networked system. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use a network map to determine a network path as taught by Callon in order to determine the best path based on the current network state.

14. Regarding claim 24, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 23 above, including each of the plurality of communication devices are wireless communication devices (Cunningham: col. 6, lines 1 1-1 3), the plurality of wireless communication devices being disposed throughout a geographic area such that the antenna patterns associated with the plurality of wireless communication device overlap to create a coverage area that defines the second communication network (Cunningham: col. 6, lines 11-19; col. 7, lines 32-44; and col. 14, lines 1-11).

15. Regarding claim 25, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 23 above, including the first communication network is a wide area network (Cunningham: col. 32, lines 41-45; and col. 45, lines 60-67) and the second communication protocol comprises TCP/IP (Cunningham: col. 34, lines 58-65).

16. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham-Royer-Callon as applied to claim 23 above, and further in view of applicant admitted prior art.

17. Regarding claim 26, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 15 above, including a data packet comprising: a to address (Royer: p. 49, left); a from address (Id.), and a command number comprising a function code (Cunningham: col. 14, lines 13-54; and Fig. 21), a data field, a checksum field; and a packet number field (Cunningham: col. 14, lines 13-54; and Fig. 21). Cunningham, however, does not disclose other fields in the packet, a packet length field; a packet maximum field, and a message number field.

Official notice was taken in a previous Office action that such fields were well known in the art at the time of applicant's invention. Since applicant has failed to timely traverse the statements taken under Official notice, these statements are hereby taken to be applicant admitted prior art. See MPEP 2144.03. Examples can be found in TCP and IP headers.

It would have been obvious to one skilled in the art at the time of the invention to that an extended packet fields would increase the communication efficiency in Cunningham's system by allowing for broadcast messages and avoiding network congestion, an may be included as well in an associated communication protocol.

18. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham-Royer-Callon as applied to claim 23 above, and further in view of Jil A. Westcott (Issues in Distributed Routing for Mobile Packet Radio networks), IEEE, 1982, hereinafter "Jil".

19. Regarding claim 27, Cunningham-Royer-Callon teaches the invention substantially as claimed and described in claim 23 above, but does not explicitly disclose receiving initialization commands from the plurality of communication devices. Jil, on the other hand, discloses receiving initialization commands from the plurality of communication devices (page 233, lines 1-6 under Design Overview). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Cunningham and Robert with the teachings of Jil because Jil's receiving initialization commands from the plurality of communication devices would assist in configuring look-up tables for message communication between devices in Cunningham's system (see, Jil, page 233, lines 1-6 under Design Overview).

***Response to Arguments***

20. Applicant's arguments filed 09/15/08 have been fully considered but they are not persuasive.

a. Applicant argues that the Sensor Interface Modules (SIM) described in Cunningham only provides for one-way communication from the SIM to a data collection module, and therefore the Host Module (HM) cannot communicate with

or control the SIMs. Applicant goes on to argue that Cunningham does not disclose communication devices "monitored and controlled by the host computer". (Remarks 10).

Applicant's argument is not persuasive for two reasons. Applicant's argument is not persuasive because the premise of applicant's argument is factually untrue. The SIMs in Cunningham are described with one-way transmission only for reasons of reducing costs (Col. 30, lines 55-67). Cunningham does disclose that certain applications of the invention may require two-way transmission, such as monitoring and controlling lights (Id).

Moreover, applicant's argument is not persuasive because the limitation in question appears in the preamble of the claim. In response to applicant's arguments, the recitation "monitored and controlled by the host computer" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

b. Applicant argues that there is no reason to combine Cunningham and Royer because there is no reason to modify the SIMs of Cunningham to include hardware for receiving a route request packet. As shown above, applicant's

argument turns on false information. There is no need to modify the SIMs because in certain scenarios the SIMs are capable of two-way communication.

c. Applicant argues that there is no reason to increase the flexibility and mobility of Cunningham's system because the SIMs are associated with gas, electric, and water meters, which are static. Applicant's argument is not persuasive because the SIMs of Cunningham are not limited to electric, water, and gas meters. Cunningham discloses other embodiments of SIMs, including water monitoring, vending machines, lights, security systems, and other systems where remote monitoring is necessary. One can surely envision the need to move vending machines from one location to another.

d. Applicant argues there is no need to generate a network map in the system of Cunningham because the SIMs in Cunningham are static and not mobile. This argument is not persuasive because the SIMs of Cunningham are not necessarily static, as shown above. Additionally, Cunningham discloses that SIMs may be added, so even if the SIMs themselves were to be static, the network as a whole would not be static.

e. Applicant argues that Royer determining a network map. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The claims were rejected under Cunningham in view of Royer

and Callon. Callon discloses that "when a router seeks to forward a user data packet, it consults a network map (***generated*** from the link state packets)" (Col. 13, lines 14-16) (emphasis added). Clearly Callon teaches the generation of a network map.

f. Applicant argues that Cunningham fails to teach a plurality of communication devices being disposed throughout a geographic area such that the antenna patterns associated with the plurality of wireless communication devices overlap to create a coverage area that defines a communication network (Remarks 12). Applicant has described a wireless ad hoc network. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The claims in question were rejected under Cunningham in view of Royer and Callon. Royer teaches a wireless ad hoc network.

g. Applicant argues that Cunningham does not teach providing a command to one of the plurality of remote devices. Applicant's argument is again based on the argument that the SIMs of Cunningham do not capable of receiving communications. As shown above, this is not true. Cunningham discloses SIMs capable of two-way communications in applications such as monitoring and controlling lights (Col. 30, lines 55-67).

***Conclusion***

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pat. Nos. 5,438,329; 6,301,514; 6,457,038.

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JULIAN CHANG whose telephone number is (571)272-8631. The examiner can normally be reached on Monday thru Friday 9AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./

Examiner, Art Unit 2452

/Kenny S Lin/

Primary Examiner, Art Unit 2452